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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,291	08/27/2003	Shuji Nakamura	520.43077X00	4459

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MATTINGLY, STANGER & MALUR, P.C.
1800 DIAGONAL ROAD
SUITE 370
ALEXANDRIA, VA 22314

EXAMINER

NGUYEN, THAN VINH

ART UNIT	PAPER NUMBER
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2187

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,291	Applicant(s) NAKAMURA ET AL.	
	Examiner Than Nguyen	Art Unit 2187	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 11-19 is/are rejected.
- 7) ☒ Claim(s) 5, 8-10, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/6/04, 12/29/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 are pending.
2. The IDSes, filed 1/6/04 and 12/29/04, have been considered.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested:

Redundant cache memory storage system.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6,7,11-16,17-19, rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. As to claims 6,7 Applicant claims the first and second control unit receiving power from a different power source. This language is unclear since Applicant never claimed receiving power from any source in the earlier claims. Therefore, one cannot determine what "a different power source" represents. Does Applicant mean the first and second control unit receives power from different power sources? If so, the claim language must be revised.
7. Claim 11 recites the limitation "said storage unit" in line 3 of claim. There is insufficient antecedent basis for this limitation in the claim.
8. Claims 12-14,16 are rejected for incorporating the deficiencies of the parent claim 11.

Art Unit: 2187

9. Claim 15 recites the limitation "said storage unit" in line 5 of claim. There is insufficient antecedent basis for this limitation in the claim.

10. Claims 17,18 recites the limitation "the time point" in line 4 of claim. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 19 recites the limitation "each memory" in line 2 of claim. There is insufficient antecedent basis for this limitation in the claim. It is unclear as what memory Applicant is referring to.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. Claim1 is rejected under 35 U.S.C. 102(e) as being anticipated by Asai et al (US 6,760,765).

As to claim 1:

14. Asai teaches a cluster server apparatus. Asai teaches a storage system connected to a computer comprising: a first control unit (cache server 10-1), a second control unit (cache server 10-2), a third control unit (cache server 10-3) and plural storage units (streaming data units 15-1, 15-2, 15-3), wherein said first control unit, said second control unit and said third control unit each has a memory, and said first control unit stores data received from said computer in the

Art Unit: 2187

memory possessed by the first control unit and the memory possessed by said second control unit (store data in two or more cache servers as redundant data; abstract; 3/23-26; 26/10-15).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 2-4,17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al (US 6,670,765) in view of McKean et al (US 6,681,339).

As to claim 2:

17. Asai teaches using redundant storage to provide data when a failure occurs in one of the cache server (2/47-51). However, Asai does not specifically teach first control unit stores the data received from said computer in the memory possessed by the first control unit and the memory possessed by said third control unit in a case where said second control unit becomes unusable. Redistributing the functions of a failed memory device is well-known in the art. McKean teaches a fault tolerant in which, the data storage function of the failed device is taken over by the remaining storage controller. It would have been obvious to one of ordinary skills in the art to use McKean's method of redistributing functions of a failed storage controller to remaining controllers, in the storage system of Asai, to store data of the failed device to provide for a reliable and fault-tolerant data storage system.

As to claim 3:

Art Unit: 2187

18. Asai teaches the second control unit stores the data received from said computer in the memory possessed by said second control unit and the memory possessed by said first control unit (store data in two or more cache servers as redundant data; abstract; 3/23-26; 26/10-15).

As to claim 4:

19. Asai teaches using redundant storage to provide data when a failure occurs in one of the cache server (2/47-51). However, Asai does not specifically teach wherein said first control unit receives the data from said computer instead of said second control unit when said second control unit becomes unusable and said first control unit stores said received data in the memory possessed by said first control unit and the memory possessed by said third control unit.

Redistributing the functions of a failed memory device is well-known in the art. McKean teaches a fault tolerant in which, the data storage function of the failed device is taken over by the remaining storage controller. It would have been obvious to one of ordinary skills in the art to use McKean's method of redistributing functions of a failed storage controller to remaining controllers, in the storage system of Asai, to store data of the failed device to provide for a reliable and fault-tolerant data storage system.

As to claims 17,18,19:

20. McKean teaches transferring data to the remaining controller when a storage controller fails (4/30-67; 5/35-40). Asai also teaches providing data from other servers when one server fails; (2/45-51/15-31)

Allowable Subject Matter

Art Unit: 2187

21. Claims 5-16,20,21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including **all of the limitations of the base claim and any intervening claims.**

22. As to claim 5, the prior art does not suggest the claimed system further comprising a fourth control unit, said fourth control unit having a memory, wherein said first control unit receives the data from said computer instead of said second control unit when said second control unit becomes unusable and said first control unit stores said received data in the memory possessed by said first control unit and the memory possessed by said fourth control unit.

23. Claims 8-10,20,21 are allowable for incorporating the limitations of claim 5, and other limitations.

24. Claims 6,7,11-16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and **to include all of the limitations of the base claim and any intervening claims.**

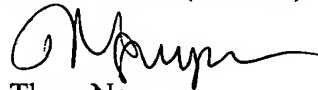
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Than Nguyen whose telephone number is 571-272-4198. The examiner can normally be reached on 8am-3pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Than Nguyen can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2187

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Than Nguyen
Primary Examiner
Art Unit 2187